

IN THE CLAIMS:

- 1 1. (Previously Amended – Now Allowed) A method for programming wireless
2 subscriber terminals in a wireless system, the wireless system having a base station in
3 wireless communication with the wireless subscriber terminals using one or more control
4 channels and multiple traffic channels, and each wireless subscriber terminal having a
5 memory, a non-volatile memory, a processor, and a pre-existing control program running
6 on the processor to control operation of the wireless subscriber terminal, the method
7 comprising the steps of:
 - 8 A. transmitting from the base station over a control channel to wireless subscriber
9 terminals information about a new control program;
 - 10 B. transmitting a response from each individual wireless subscriber terminal over a
11 control channel to the base station indicating whether that terminal will be a re-
12 cipient of the new control program;
 - 13 C. broadcasting the new control program in blocks of data from the base station to
14 the recipient terminals over a control channel;
 - 15 D. polling all of the recipient terminals by the base station over a control channel to
16 determine the transfer status of the new control program at each recipient termi-
17 nal;
 - 18 E. transmitting a status message from each recipient terminal to the base station over
19 a point-to-point control channel indicating the status of the reception of the new
20 control program;
 - 21 F. re-transmitting select missing data blocks to each recipient terminal in response to
22 the individual status messages sent from each recipient terminal that indicate an
23 incomplete transmission and the specific data blocks needed; and
 - 24 G. transferring control of each recipient terminal to said new control program.

- 1 2. (Cancelled)
- 1 3. (Previously Amended – Now Allowed) The method of claim 1, wherein the step of
2 re-transmitting occurs over one or more point-to-point control channels.
- 1 4. (Previously Amended – Now Allowed) The method of claim 1, wherein the step of
2 re-transmitting occurs over one or more broadcast control channels.
- 1 5. (Cancelled)
- 1 6. (Previously Amended – Now Allowed) The method of claim 1, wherein the step of
2 transferring control involves performing a series of diagnostic tests at each recipient
3 wireless subscriber terminal to determine the validity of the new control program re-
4 ceived at that wireless subscriber terminal.
- 1 7. (Previously Amended – Now Allowed) The method of claim 1, further comprising
2 the step of storing each program segment received by the recipient wireless subscriber
3 terminal in the non-volatile memory of the wireless subscriber terminal, whereby the
4 wireless subscriber terminal retains all received program segments if reception of pro-
5 gram segments by the wireless subscriber terminal is interrupted.
- 1 8. (Original – Now Allowed) The method of claim 1 further comprising the step of
2 storing the original control program in non-volatile memory after transferring control of
3 the processor to the new control program.
- 1 9. (Previously Amended – Now Allowed) The method of claim 1 wherein the pre-
2 existing control program and the new control program each comprise a software patch for
3 controlling less than all of the operations of the wireless subscriber terminal.

- 1 10. (Original – Now Allowed) The method of claim 1 wherein the wireless subscriber
- 2 terminal is a cellular phone.

- 1 11. (Original – Now Allowed) The method of claim 1 wherein the wireless subscriber
- 2 terminal is a terminal of a wireless local loop.

- 1 12. (Original – Now Allowed) The method of claim 1 wherein the step of transferring
- 2 control to the new control program is forced by the base station during the step of initial-
- 3 izing each wireless sub-scriber terminal.

- 1 13. (Previously Amended – Now Allowed) A system for programming wireless sub-
- 2 scriber terminals, the system comprising:
 - 3 a base station, the base station having a memory;
 - 4 a control program stored in the memory of the base station;
 - 5 one or more wireless subscriber terminals in wireless communication with the
 - 6 base station over an air interface, the air interface comprising a plurality of traffic chan-
 - 7 nels and a plurality of control channels;
 - 8 means for transmitting from the base station to wireless subscriber terminals in-
 - 9 formation about a new control program;
 - 10 means for transmitting a response from each individual wireless subscriber termi-
 - 11 nal over a control channel to the base station indicating whether that terminal will be a
 - 12 recipient of the new control program;
 - 13 means for broadcasting the new control program in blocks of data from the base
 - 14 station to the recipient terminals;
 - 15 means for polling all of the recipient terminals over a control channel to deter-
 - 16 mine the transfer status of the new control program at each recipient terminal;
 - 17 means for transmitting a status message from each recipient terminal to the base
 - 18 station over a control channel indicating the status of the reception of the new control
 - 19 program;

20 means for re-transmitting select missing data blocks to each recipient terminal in
21 response to the individual status messages sent from each recipient terminal indicating an
22 incomplete transmission and the specific data blocks needed; and
23 means for transferring control of each recipient terminal to said new control pro-
24 gram.

1 14. (Original – Now Allowed) The system of claim 13, wherein the one or more wire-
2 less subscriber terminals comprise cellular phone handsets.

1 15. (Original – Now Allowed) The system of claim 13, wherein the one or more wireless
2 subscriber terminals comprise wireless local loop terminals.

1 16. (Currently Amended) A base station for programming one or more wireless sub-
2 scriber terminals in a wireless system, the base station comprising:
3 a memory;
4 a control program stored in the memory as one or more program segments;
5 a transmitter for transmitting forward messages to wireless subscriber terminals
6 over an air interface, the forward messages including polling inquiries to recipient termi-
7 nals over a control channel about the transfer of a new control program to recipient ter-
8 minals and including [the] one or more program segments stored in the memory that can
9 be selectively transmitted without regard to sequence;
10 a receiver for receiving reverse messages from wireless subscriber terminals over
11 the air interface, including one or more status messages from recipient terminals over a
12 point-to-point control channel including messages indicating the status of the reception of
13 a new control program, or portion thereof; and
14 a processor connected to the memory, the transmitter, and the receiver for con-
15 trolling operation of the base station.

- 1 17. (Original) The base station of claim 16, the forward messages including broadcast
- 2 firmware start messages and the reverse messages including broadcast firmware start re-
- 3 sponse messages.

- 1 18. (Original) The base station of claim 16, the forward messages including broadcast
- 2 firmware status request messages and the reverse messages including broadcast firmware
- 3 status messages.

- 1 19. (Original) The base station of claim 16, the forward messages including firmware
- 2 switch-over messages.

- 1 20. (Previously Amended - Now Allowed) A method for operating a base station to pro-
- 2 gram one or more wireless subscriber terminals in a wireless system, the method com-
- 3 prising the steps of:
 - 4 A. transmitting from the base station to wireless subscriber terminals information
 - 5 about a new control program;
 - 6 B. receiving a response from each individual wireless subscriber terminal over a
 - 7 control channel to the base station indicating whether that terminal will be a
 - 8 recipient of the new control program;
 - 9 C. broadcasting the new control program in blocks of data from the base station
 - 10 to the recipient terminals;
 - 11 D. polling all of the recipient terminals over a control channel to determine the
 - 12 transfer status of the new control program at each recipient terminal;
 - 13 E. receiving a status message from each recipient terminal to the base station
 - 14 over a control channel indicating the status of the reception of the new control
 - 15 program;
 - 16 F. re-transmitting select missing data blocks to each recipient terminal in re-
 - 17 sponse to the individual status messages sent from each recipient terminal that
 - 18 indicates an incomplete transmission and the specific data blocks needed; and

19 G. transferring control of each said recipient terminal to said new control pro-
20 gram.

1 21. (Cancelled)

1 22. (Original – Now Allowed) The method of claim 20, the step of broadcasting further
2 comprising the step of transmitting one or more broadcast firmware block messages over
3 a broadcast channel.

1 23. (Cancelled)

1 24. (Currently Amended) A wireless subscriber terminal for use in a wireless system, the
2 terminal comprising:

3 a memory;

4 a transmitter for transmitting reverse messages from the terminal over an air inter-
5 face including one or more status messages over a point-to-point control channel indi-
6 cating the status of the reception of a new control program, or portion thereof including
7 information relating to missing data blocks from a program transfer;

8 a receiver for receiving forward messages from a base station over a control
9 channel, the forward messages including polling inquiries about the transfer of a new
10 control program to the terminal and including messages concerning the one or more pro-
11 gram segments irrespective of their sequence; and

12 a processor connected to the memory, the transmitter, and the receiver for con-
13 trolling the terminal, and for storing the one or more program segments in the memory.

1 25. (Original) The terminal of claim 24 wherein the forward messages include broadcast
2 firmware start messages and the reverse messages include broadcast firmware start re-
3 sponse messages.

- 1 26. (Original) The terminal of claim 24 wherein the forward messages include broadcast
2 firmware status request messages and the reverse messages include broadcast firmware
3 status messages.
- 1 27. (Original) The terminal of claim 24 wherein the forward messages include firmware
2 switch-over messages.
- 1 28. (Original) The terminal of claim 24 wherein the forward messages including the one
2 or more program segments are broadcast messages.
- 1 29. (Previously Amended – Now Allowed) A method for operating a wireless subscriber
2 terminal in a wireless system to receive a control program, the method comprising the
3 steps of:
 - 4 A. receiving from the base station information about a new control program;
 - 5 B. transmitting a response from each individual wireless subscriber terminal over
6 a control channel to the base station indicating whether that terminal will be a
7 recipient of the new control program;
 - 8 C. receiving the new control program in blocks of data through a broadcast from
9 the base station at the recipient terminals;
 - 10 D. receiving a status request at all of the recipient terminals over a control chan-
11 nel to determine the transfer status of the new control program at each recipi-
12 ent terminal;
 - 13 E. transmitting a status message from each recipient terminal to the base station
14 over a control channel that indicates the status of the reception of the new
15 control program and specific data blocks missing;
 - 16 F. re-receiving select missing data blocks at each recipient terminal from the
17 base station in response to the individual status messages sent from each re-
18 cipient terminal; and
 - 19 G. transferring control of each recipient terminal to said new control program.

- 1 30. (Cancelled)
- 1 31. (Previously Amended – Now Allowed) The method of claim 29, the step of receiving the new control program further comprising the step of receiving a plurality of firmware block messages over a broadcast channel.
- 1 32. (Cancelled)
- 1 33. (Original – Now Allowed) The method of claim 29, the step of transferring control further comprising the step of receiving a firmware switch-over message.